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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Davis Wright Tremaine LLP
Barry L Davison
2600 Century Square
1501 Fourth Avenue
Seattle, WA 98101-1688

EXAMINER

GOLDBERG, JEANINE ANNE

ART UNIT

PAPER NUMBER

1634

DATE MAILED: 08/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/699,243	MARKL ET AL.	
	Examiner	Art Unit	
	Jeanine A Goldberg	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/23/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4 and 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 7-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the papers filed May 23, 2003. Currently, claims 1-2, 4, 7-12 are pending. All arguments have been thoroughly reviewed but are deemed non-persuasive for the reasons which follow.
2. Any objections and rejections not reiterated below are hereby withdrawn in view of the amendments to the Claims, applicants' arguments and the 1.132 Declaration filed by Dr. Cathy Lofton-Day.
3. This action contains new grounds of rejection necessitated by amendment.

New Grounds of Rejection Necessitated by Amendment

New Matter

4. Claims 1-2, 4, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In the amended claims, reference to "CpG island sequences contiguous with, or encompassing at least one nucleotide of SEQ ID Nos: 35-38" are included. The amendment proposes that the new claim language is supported under the definition of CpG island in the specification at page 4, line 36 through page 5, line 5. However, the specification does not describe or discuss "CpG island sequences contiguous with, or encompassing at least one nucleotide of SEQ ID Nos: 35-38". Instead the specification describes CpG island sequences contiguous **that** encompasses at least one nucleotide

of the particular SEQ ID Nos: 35-38 (page 5, lines 1-5). This description does not support CpG island sequences contiguous with, **or** encompassing at least one nucleotide of SEQ ID Nos: 35-38. The definition in the specification requires that the contiguous sequence encompasses at least one nucleotide of the particular SEQ ID NO:. However, the claims, as written, do not require that the CpG is contiguous, but rather only requires that the sequence contain a single nucleotide of SEQ ID NO: 35-38. This is much broader in scope. The claimed sequences need not be in the same chromosomal region, but merely require a single nucleotide, which may be an C or G which is part of every CpG island. The concept of "CpG island sequences contiguous with, or encompassing at least one nucleotide of SEQ ID Nos: 35-38" does not appear to be part of the originally filed invention. Therefore, "a CpG island sequences contiguous with, or encompassing at least one nucleotide of SEQ ID Nos: 35-38" constitutes new matter. Applicant is required to cancel the new matter in the reply to this Office Action.

Maintained Rejections

Claim Rejections - 35 USC § 112-Description

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-2, 4, 7-12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as

to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to DNA sequences and methods using DNA sequences selected from CpG island sequences contiguous with or encompassing at least one nucleotide of with SEQ ID NO: 35-38.

The specification describes sequencing 103 "novel" sequences. The specification fails to teach the chromosomal location, the gene, or the cDNA of these DNA sequence fragments. The specification fails to describe contiguous CpG islands of SEQ ID NO: 35-38.

Vas-Cath Inc. V. Mahurkar, 19 USPQ2b 1111, clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed". Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 USC 112 is severable from its enablement provision. In *The Regents of the University of California v. Eli Lilly* (43 USPQ2b 1398-1412), the court held that a generic statement which defines a genus of nucleic acids by only their functional activity does not provide an adequate written description of the genus. The court indicated that while Applicants are not required to disclose every species encompassed by a genus, the description of a genus is achieved by the recitation of a representative number of DNA molecules, usually defined by a nucleotide sequence, falling within the scope of the claimed genus. At section B(1), the court states that "An adequate written description of a DNA..." required a precise

definition, such as by structure, formula, chemical name, or physical properties', not a mere wish or plan for obtaining the claimed chemical invention". In analyzing whether the written description requirement is met for a genus claim, it is first determined whether a representative number of species have been described by their complete structure. In the instant case, Applicant has defined only a fragment of a nucleic acid sequence. Applicant has not disclosed any genomic DNA sequences and particularly has not disclosed any intron sequences or regulatory sequences. Accordingly, Applicants have not adequately disclosed the relevant identifying characteristics of a representative number of species within the claimed genus.

Similar to Example 7 of the Written Description guidelines, the specification teaches a fragment of a cDNA or genomic DNA, but does not provide the full cDNA or genomic DNA.

The specification has not provided any description of sequences "contiguous with, or encompassing at least one nucleotide of SEQ ID NO: 35-38". The specification has not provided a complete structure of DNA "contiguous with, or encompassing at least one nucleotide of SEQ ID NO: 35-38." There is no description of an embodiment within this large genus. While the specification has taught associated CpG islands are contiguous sequence of genomic DNA, this does not provide description of the sequences. As noted above, written description requires possession. Furthermore, adequate description requires a precise definition, such as by structure or formula. With respect to CpG islands encompassing at least one nucleotide of SEQ ID NO: 35-38, this merely requires that the CpG island encompasses any C, T, A, or G because SEQ ID

NO: 35-38 encompass each of these nucleotides. Therefore, based upon the extremely broadly written claims, applicants have not described a representative number of these embodiments within the scope of the claim.

With respect to Claims 7-12, the claimed sequences have not been adequately described. The claims are drawn to a probe or primer which hybridizes to any region of at least 12 contiguous nucleotides from SEQ ID NO: 34-38. The genus of nucleic acids encompassed by the claims is immense. The claims read upon any a probe which hybridizes under low stringency conditions, to a region of 12 nucleotides. This nucleic acid broadly encompasses a nucleic acid with no length limitation which may only have 8-10 nucleotides in common with SEQ ID NO: 34-37. Moreover, where the probe comprises at least 12 nucleotides from SEQ ID NO: 34-37 the nucleic acid broadly reads on the gene from the CpG island was extract, which has not been described. Variants, including polymorphisms, mutations, splice variants, for example. The full length DNA comprising SEQ ID NO: 35-38 has not been described, thus full length genes comprising a smaller portion has not been described.

Response to Arguments

The response traverses the rejection. The response asserts that the claims have been adequately described. In responding to the examiner's rejection, applicants have set forth several reasons for traversal which will be addressed in the order argued.

With respect to "contiguous with, or encompassing at least one nucleotide of SEQ ID NO: 35-38", the response asserts that the "methylation stat of a portion of a given CpG island is generally representative of the island as a whole." This argument

appears to be more appropriate for a rejection under enablement. The written description rejection is based upon description and possession rather than predictability. This argument has been reviewed but is not convincing because the specification has not provided a representative number of associated sequences. The specification has not provided any structure to the "contiguous with, or encompassing at least one nucleotide of SEQ ID NO: 35-38." The claims require that only one of nucleotide of the partial SEQ ID NO: is present. The specification has not described a larger portion of a CpG island. Therefore, detecting an associated sequence has not been described. With respect to the arguments directed to the conceptual "association," this concept does not provide support for possession of associated sequences. Conception of an idea does not provide for possession of the product.

The response also argues that "the subject CpG islands are those genomic GpG islands that comprise, to some extent, at least one of SEQ ID NO: 34-38 and thus would be reasonably expected to reflect the methylation status thereof." This argument has been thoroughly reviewed, but is not found persuasive because reasonable expectation does not play a role in written description considerations. Furthermore, the claims are not drawn to requiring more than a single nucleotide within SEQ ID NO: 34-38. Thus, any CpG island would be encompassed by the instant claims. The instant specification has not described any CpG island.

Thus for the reasons above and those already of record, the rejection is maintained.

Claim Rejections - 35 USC § 112- Enablement

Art Unit: 1634

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-2, 4, 7-12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims are broadly drawn to a method of diagnosis or prognosis of cancer by performing a methylation assay to determine a diagnosis.

The specification clearly states that “unfortunately, the mere knowledge of the basic existence of altered methylation of CpG dinucleotides within CpG islands of cancer cells relative to normal cells, or of the fact that in particular instances such methylation changes result in altered gene expression (or chromatin structure or stability), is inadequate to allow for effective diagnostic, prognostic and therapeutic application of this knowledge” (page 2, lines 31-35). The specification continues to state “this is because only a limited number of CpG islands have been characterized, and thus there is insufficient knowledge, as to which particular CpG islands, among many, are actually involved in, or show significant correlation with cancer or the etiology thereof. Moreover, complex methylation patterns, involving a plurality of methylation-altered DNA sequences, including those that may have the sequence compositions to qualify as CpG islands, may exist in particular cancers” (page 3, lines 1-5). Therefore, there is a need in the art to identify and characterize specific methylation altered DNA

sequences, and to correlate them with cancer to allow for their diagnostic, prognostic and therapeutic application (page 3, lines 7-10). The specification teaches the invention provides for 103 DNA sequences having distinct methylation patterns in cancer, as compared to normal tissue (page 5, lines 35-36). These "methylation-altered DNA sequence embodiments correspond to 103 DNA fragments isolated from bladder and prostate cancer patients" (page 6, lines 1-2). Genomic DNA was isolated from tissue of bladder or prostate cancer patients and identified as either hypermethylated or hypomethylated (page 6).

The art clearly illustrates that certain genes, including GSTP1, HIC-1, and p16, are hypermethylated and this is indicative of certain cancers (US Pat. 5,552,277; 5,846,712; 5,856,094).

Neither the specification nor the art teach the skilled artisan how to use the invention as broadly as claimed. First, the specification clearly teaches that "unfortunately, the mere knowledge of the basic existence of altered methylation of CpG dinucleotides within CpG islands of cancer cells relative to normal cells, or of the fact that in particular instances such methylation changes result in altered gene expression (or chromatin structure or stability), is inadequate to allow for effective diagnostic, prognostic and therapeutic application of this knowledge" (page 2, lines 31-35). The instant specification does not appear to have performed any more experimentation than the mere determination that a basic existence of altered methylation of CpG dinucleotides within CpG islands of cancer cells relative to normal. Therefore, the specification appears to be indicating that this is inadequate to allow for effective

diagnostic, prognostic or therapeutic application of this knowledge. In essence, it appears as though the specification teaches that the instant invention is not enabled for use in diagnostic, prognostic or therapeutic applications. In order to use this information, the skilled artisan would be required to sample a population of individuals and assess whether each SEQ ID NO: 34-38 is associated differentially expressed in cancer. This experimentation would be trial and error experimentation which would not have predictable results for the reasons provided in the specification, namely "this is because only a limited number of CpG islands have been characterized, and thus there is insufficient knowledge, as to which particular CpG islands, among many, are actually involved in, or show significant correlation with cancer or the etiology thereof.

Moreover, complex methylation patterns, involving a plurality of methylation-altered DNA sequences, including those that may have the sequence compositions to qualify as CpG islands, may exist in particular cancers" (page 3, lines 1-5). In the event that detection of cancer, is not enabled, it is unclear how the polynucleotides may be used.

Second, the specification teaches SEQ ID NO: 34-38 were found to be hypermethylated in a single prostate cancer tissue sample. The specification has provided a single sample which shows methylation. Thus, the specification does not appear to have performed the analysis implied by the specification to be required for diagnostic and prognostic assays. The specification appears to suggest that more than an existence of hypermethylation of the CpG islands in cancer cells is required. Therefore, based upon the single sample, no predictive prognostic or diagnostic assay appears to be supported.

Third, the indication that one prostate cancer sample indicated a hypermethylation of the region is not indicative that any and all cancers have the same methylation regions. For example, the bladder cancer samples exemplified in the specification do not appear to have hypermethylation of SEQ ID NO: 34-38. Therefore, it is unpredictable whether hypermethylation of SEQ ID NO: 34-38 is a general marker for all cancers, or whether there is a smaller class of cancers which SEQ ID NO: 34-38 are markers, or finally whether the sequence may only be expressed in prostate cancer.

Finally, the specification has not taught that a predictable correlation exists between nucleic acids which are "contiguous with, or encompassing at least one nucleotide of SEQ ID NO: 35-38". The specification has not described any "contiguous with, or encompassing at least one nucleotide of SEQ ID NO: 35-38", therefore, it is unpredictable that "contiguous with, or encompassing at least one nucleotide of SEQ ID NO: 35-38" are indicative of cancers absent unpredictable and undue experimentation. The skilled artisan would first be required to determine "contiguous with, or encompassing at least one nucleotide of SEQ ID NO: 35-38" and then assay these unknown sequences to determine whether or not they are hypermethylated or hypomethylated and then whether this aberrant methylation status is associated with cancer. Moreover, the art does not support the idea that all contiguous CpG islands or regions comprising at least one nucleotide from SEQ ID NO: 34-38 is associated with cancer of prostate, colon or breast. For example, in CACNA1G (see Toyota et al. Cancer Research, Vol. 59, pages 4535-4541, September 1999), a detailed analysis was provided for CpG islands within the gene. The eight regions each behaved very

differently. For example Regions 1 and 2 behaved in a concordant manner. Region 3 had either no methylation or very low levels of methylation. Regions 5, 6, 7 behaved differently than regions 1-3. Regions 4, 8 behaved differentially again. Thus, with regards to hypermethylation in cancer, the CpG region upstream of CACNA1G appears to behave independently (page 4538, col. 1). Therefore, since the art provides examples where CpG islands act in predictable ways (cited by applicant) and examples where CpG islands act independently (cited by examiner, namely Toyota, for example), it is unpredictable whether the instant CpG islands act in a predictable or independent manner. Therefore, it is unpredictable that regions contiguous with or comprising a part of SEQ ID NO: 34-38 are associated with cancer.

Therefore, based upon the unpredictability and the undue experimentation which would be required to be performed prior to practicing the full scope of the method, the instant specification has not enabled the instant claims.

Response to Arguments and Declaration filed under 1.132

The response traverses the rejection. The response asserts that the claims have been adequately described. In responding to the examiner's rejection, applicants have set forth several reasons for traversal which will be addressed in the order argued.

First, the response asserts that the examiner has "inappropriately misconstrued applicant's quoted statements." The response argues that the background section of the specification was intended to mean "to indicated that methylation analyses and correlations need to be made with specific sequences or genes." The specification states "unfortunately, the mere knowledge of the basic existence of altered methylation

of CpG dinucleotides within CpG islands of cancer cells relative to normal cells, or of the fact that in particular instances such methylation changes result in altered gene expression (or chromatin structure or stability), is inadequate to allow for effective diagnostic, prognostic and therapeutic application of this knowledge.” The response argues that the applicants have accomplished the correlation to specific sequence with cancer in the instant invention. The specification has provided a single sample which shows methylation. The specification appears to indicate that this is not sufficient, but rather requires more. The specification does not appear to have provided an analysis of more than one sample to illustrate that the nucleic acid is predictably hypermethylated in prostate cancer. Thus, the specification does not appear to have performed the analysis implied by the specification to be required for diagnostic and prognostic assays. The specification appears to suggest that more than an existence of hypermethylation of the CpG islands in cancer cells is required. Therefore, based upon the single sample, no predictive prognostic or diagnostic assay appears to be supported.

The response asserts that the claims have been amended to recite breast or colon or prostate cancer. The specification has provided no information regarding SEQ ID NO: 34-38 with breast or colon cancer. The affidavit under 37 CFR 1.132 filed May 23, 2003 is insufficient to overcome the rejection of claims 1-2, 4, 7-12 based upon enablement as set forth in the last Office action. The declaration filed by Dr. Cathy Lofton-Day of May 23, 2003 has been thoroughly reviewed, but found not persuasive to enable the full scope of the instant claims. The affidavit states that experiments for

SEQ ID NO: 36 and 37 have been conducted for breast and colon cancer. As seen in Table 1, a study of 35 individuals were analyzed for hypermethylation in breast cancer; and SEQ ID NO: 37 was analyzed for hypermethylation in breast, colon and prostate cancers. The data represented in Table 1 does not indicate that each of SEQ ID NO: 34-38 are associated with each of prostate, breast and colon. Moreover, the data is silent with respect to CpG islands which are contiguous with or encompassing at least one nucleotide of SEQ ID NO: 35-38.

Finally, the response traverses the rejection with respect to the "contiguous with, or encompassing at least one nucleotide of SEQ ID NO: 35-38" within the scope of the claims. With respect to "contiguous with, or encompassing at least one nucleotide of SEQ ID NO: 35-38", the response asserts that the specification clearly defines the term. The specification teaches that the CpG island sequence associated with the sequence of a particular SEQ ID NO: is that contiguous sequence of genomic DNA that encompasses at least one nucleotide of the particular SEQ ID NO: sequence and satisfies the criteria of having both a frequency of CpG dinucleotides corresponding to an Observed/Expected Ratio >0.6 , and a GC content >0.5 (page 3, lines 24-28). This argument has been reviewed but is not convincing because the specification has not provided a representative number of associated sequences. The specification has not provided any structure or association with bladder and prostate cancer to the "associated sequences." The specification has not provided a larger portion of a CpG island. Therefore, detecting an associated sequence has not been taught in the specification. With respect to the arguments directed to the conceptual "association,"

this concept does not provide support for enablement of associated sequences.

Conception of an idea does not provide for enablement of the product. Moreover, the art does not support the idea that all contiguous CpG islands or regions comprising at least one nucleotide from SEQ ID NO: 34-38 is associated with cancer of prostate, colon or breast. For example, in CACNA1G (see Toyota et al. Cancer Research, Vol. 59, pages 4535-4541, September 1999), a detailed analysis was provided for CpG islands within the gene. The eight regions each behaved very differently. For example Regions 1 and 2 behaved in a concordant manner. Region 3 had either no methylation or very low levels of methylation. Regions 5, 6, 7 behaved differently than regions 1-3. Regions 4, 8 behaved differentially again. Thus, with regards to hypermethylation in cancer, the CpG region upstream of CACNA1G appears to be behave independently (page 4538, col. 1). Therefore, since the art provides examples where CpG islands act in predictable ways (cited by applicant) and examples where CpG islands act independently (cited by examiner, namely Toyota, for example), it is unpredictable whether the instant CpG islands act in a predictable or independent manner. Therefore, it is unpredictable that regions contiguous with or comprising a part of SEQ ID NO: 34-38 are associated with cancer.

Thus for the reasons above and those already of record, the rejection is maintained.

New Grounds of Rejection Necessitated by Amendment

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Nelson et al. (US Pat. 5,552,277, September 1996).

The claims have been amended to encompass CpG island encompassing at least one nucleotide of SEQ ID NO: 35-38. SEQ ID NO: 35-38 each contain a C or a G. The GSTP1 promoter sequence contains a C and a G.

Nelson et al. (herein referred to as Nelson) teaches a method of diagnosing prostate cancer by detecting methylation in the 5' promoter region of GSTP1. Nelson teaches isolating DNA from human prostatic carcinoma specimens; performing a methylation assay on one DNA from the sample, namely a digestion with restriction enzymes and a Southern blot analysis using a GSTP1 probe and comparing the methylation state to a control (col. 13, lines 35-55). Nelson teaches that each of the prostate cancers studies displayed evidence of increased GSTP1 promoter hypermethylation relative to matched control DNA prepared from normal tissues.

Thus, since Nelson teaches every limitation of the instant claims, Nelson anticipates the claimed invention.

Art Unit: 1634

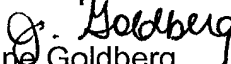
Conclusion

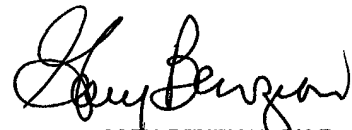
8. No claims allowable.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Jeanine Goldberg whose telephone number is (703) 306-5817. The examiner can normally be reached Monday-Friday 7:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (703) 308-1152. The fax number for this Group is (703) 305- 3014.

Any inquiry of a general nature should be directed to the Group receptionist whose telephone number is (703) 308-0196.


Jeanine Goldberg
August 4, 2003



GARY BENZION, PH.D
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600